

IN THE CLAIMS

A listing of the claims presented in this patent application appears below. This listing replaces all prior versions and listing of claims in this patent application.

1. (Currently Amended) A switching power supply unit, wherein

a plurality of capacitors connected in series with each other are connected with input terminals of a plurality of switching power supplies each having a switching element, a transformer and a rectifier, so that voltages of the plurality of capacitors are inputted to the plurality of switching power supplies, and that voltages developed in the plurality of switching power supplies are outputted together to a common output terminal, and

the transformer is composed of windings made up of a stack of planar conductor coils, and each secondary winding of the windings is formed of one of a single one-turn coil and a plurality of one-turn coils connected in parallel.

2. The switching power supply unit according to claim 1, wherein

the windings as the transformer are formed of copper foil patterns stacked on a multilayer printed board.

3. The switching power supply unit according to claim 2, wherein

the copper foil patterns are formed one turn per layer of the multilayer printed board, and the copper foil patterns on the multilayer printed board are interconnected by a connection unit.

4. The switching power supply unit according to claim 3, wherein

the connection unit is formed outside the copper foil patterns.

5. The switching power supply unit according to claim 1, wherein

the switching power supplies are half-bridge converters.

6. The switching power supply unit according to claim 1, wherein

the switching elements of the plurality of switching power supplies are switched on and off at regular intervals.

7. An electronic device for supplying electric power to a semiconductor device by using the switching power supply unit according to any one of claims 1 to 6.